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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,739	08/21/2003	Bernd Gigas	87335.3820	6205

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EXAMINER

DRODGE, JOSEPH W

ART UNIT	PAPER NUMBER
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1723

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/644,739

Applicant(s)

GIGAS ET AL.

Examiner

Joseph W. Drodge

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 6-19, 22-25 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6-19, 22-25 and 27-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 2-4,6-19, 22-25 and 27-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Instant Specification, as originally filed and Drawings do not support any of the following features of the newly added recitations in claims 7 and 25:

of an adjustable lip that is connected to a partition or weir member that extends downwardly from the "third partition" as in amended claim 7. ***Paragraph 32 of the Instant Specification and associated figure 2, instead support claiming of an adjustable lip that is hingedly connected to the "top of third partition 50", which is recited as "second partition extending from said settler compartment bottom" in the preceding paragraph of claim 7; or of***

a partition wall ***that is between the first and second weir means***, as in formerly amended claim 25. The figures and paragraphs 30 and 31 of the instant Specification instead recite the first and second weir means as comprising partitions, however there being no partition therebetween; or of

there being splash reducing means that are including an adjustable lip as in formerly amended claim 25. Paragraph 32 of the Specification instead recites that a reduced angle of the adjustable lip attached to the top of a partition reduces splash,

thusly reducing of splash constitutes an assembly method step, not any particular means or structural entity.

In addition, the specification does not provide clear support for the recited lip having an "airplane wing cross-sectional profile shape". Paragraph 32 defining the lip is silent as to it's shape. Airplane wings may have either a substantially planar cross-sectional shape, or a more or less curved shape, depending upon the size and type of airplane.

These amendments to claims 7 and 25, as well as claims 29-32, thus all constitute ***New Matter***.

Claims 2-4,6-19,22-25 and 27-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, recitation of an adjustable lip having a top lip connected to the top end of third partition, is confusing, since such third partition is recited in the previous paragraph as extending downwardly from the settler compartment top, the claim is confusing the second partition with the third partition here.

In claim 25, each of: "first weir means...", "second weir means", "inlet opening means", "labyrinth means..." and "splash reducing means.." are deemed to constitute 112. 6th paragraph means plus function limitations. The "first weir means" is understood from paragraph 8 as concerning any structure arranged to collect a coalesced organic phase from it's mixture with a heavier, continuous aqueous phase. The "second weir means" is understood from paragraph 8 as concerning any structure constructed and

Art Unit: 1723

arranged to collect the heavier aqueous phase from such mixture. Also paragraph 8 clarifies that "labyrinth means" is any means to enable entrained organic phase from such mixture with aqueous phase to rise into a quiescent portion.

However, it is again unclear what is meant by "splash reducing means".

Paragraph 32 discloses that the lip hingedly connected to the top of a third partition may or may not reduce splash depending upon the angle to which it is adjusted, thus a method step of adjusting rather than a structural component, per. se. Therefore, it is unclear as to the scope of structure encompassed by "splash reducing means".

For claims 29-32, it is unclear what is meant by "airplane wing cross-sectional shape" since airplane wings may have various shapes and such shape is not defined in the Specification.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4,6-8,14-19,22-25 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch patent 4,333,835 in view of newly cited Rice patent 5,520,825. With respect to independent claim 7, Lynch discloses the following: settler compartment 12 having top section adjacent top wall 14/16/20 and bottom section 52/56/58 adjacent a bottom wall, 1st weir means for coalescing and collecting a lighter oil phase in 30,130,131,170 with coalesced oil droplets collected in space 88 and removed by skimmer 90 and partition 40 constituting a weir (column 6, lines 1-98, column 8, lines 23-30 and column 9, lines 65-69) and inlet opening means 40 or 162 therefor, 2nd weir means having upwardly extending 1st and 2nd partitions 60 and 44 and downwardly extending 3rd partition 42 constituting a labyrinth means and also labyrinth means 100 or 104,145 therefor, and an adjustable lip means 110,144,178 coupled to the 2nd partition.

Claim 7 and claims dependent therefrom differ from Lynch in requiring the adjustable weir lip coupling to be hingedly connected to the top end of the (2nd or 3rd) partition so as to be angled downwardly away from the top end and toward the back wall of the settler compartment; the weir lip of Lynch merely being vertically adjustable. Rice also teaches an oil/water separator comprising multiple partition walls and weirs and coalescing means, as in Lynch and also having a plate-like lip 156 extending downwardly and outwardly towards a back wall 9 of the settler from a weir-like structure 141/144 (see column 4, line 62-column 5, line 17). It would have been obvious to one of ordinary skill in the art to have modified the arrangement of the lip 110 of Lynch, by making it downwardly angled towards the back wall, as in Rice, to create a flow pattern that facilitates separation of the remaining entrained phase of coalesced oil droplets from a flow of aqueous phase in the flow flowing towards the back wall of the separator.

Lynch also discloses the following with respect to dependent claims: for claim 2, the 1st weir is associated with collection of organic material or oil (column 8, lines 23-30) and 2nd weir is associated with collection of clarified water (column 8, lines 61-68); for claims 3 and 6, inlet opening and other portions of both 1st and 2nd weirs being above sludge-type organic phase/water interfaces in filtering or coalescing material 68 below the openings; for claim 4, a portion of 1st weir being vertically adjustable (column 9, lines 65-67), also the location of entire settler compartment and all components therein is adjustable since the settler compartment can be moved by positioning it on a trailer or platform that is portable by use of wheels (see figure); for claim 8, a protruding lip 60 or

132 from front wall of 1st weir for purposes of supporting the weir, for claims 18 and 20 riser with top drain/outlet 66,62,64, and for claim 19, sump section 56 or 58 .

For claims 14-16, Lynch teaches 1st weir front walls to be attached at about a 90 degree angle to the side wall of the settler compartment.

With respect to independent claim 25, Lynch discloses the following: settler compartment 12 having top section adjacent top wall 14/16/20 and bottom section 52/56/58 adjacent a bottom wall , 1st weir means for coalescing and collecting a lighter oil phase in 30,130,131,170 with coalesced oil droplets collected in space 88 and removed by skimmer 90 and partition 40 constituting a weir (column 6, lines 1-98, column 8, lines 23-30 and column 9, lines 65-69) and inlet opening means 40 or 162 therefor, 2nd weir means having upwardly extending 1st and 2nd partitions 60 and 44 and downwardly extending 3rd partition 42 constituting a labyrinth means and also labyrinth means 100 or 104,145 therefor, and an adjustable lip means 110,144,178 coupled to the 2nd partition.

Claim 25 and claims dependent therefrom differ from Lynch in requiring the adjustable weir lip coupling to be hingedly connected to the top end of the (2nd or 3rd) partition so as to be angled downwardly away from the top end and toward the back wall of the settler compartment; the weir lip of Lynch merely being vertically adjustable. Rice also teaches an oil/water separator comprising multiple partition walls and weirs and coalescing means, as in Lynch and also having a plate-like lip 156 extending downwardly and outwardly towards a back wall 9 of the settler from a weir-like structure 141/144 (see column 4, line 62-column 5, line 17). Such downwardly angled lip/plate

Art Unit: 1723

reduces or eliminated the entraining or splashing of oil droplets into the separated aqueous phase (Rice at column 5, lines 10-18).

It would have been obvious to one of ordinary skill in the art to have modified the arrangement of the lip 110 of Lynch, by making it downwardly angled towards the back wall, as in Rice, to create a flow pattern that facilitates separation of the remaining entrained phase of coalesced oil droplets from a flow of aqueous phase in the flow flowing towards the back wall of the separator.

Lynch also discloses the following for dependent claims based on claim 25; for claim 22, a means for upwardly directing portion of fluid into 1st weir means 173 (column 10, lines 12-17), for claim 23, a means for directing portion of entrained organic phase away from 2nd weir (secondary coalescing screen media 100, column 6, lines 34-49), and for claim 24, means for varying location of the inlet opening and of the entire apparatus (figure 8 shows the entire apparatus being mountable on a wheeled platform to be made portable (column 7, lines 1-9). For claims 27 and 28, both Lynch and Rice suggest the separation device as being substantially full of a generally horizontal flow of liquid being separated, thus the upper liquid surface would coincide with the top wall of the settler device and be below the weirs of the 2nd weir means and adjustable lip.

For claims 29-32, "airplane wings" may have either a curved or substantially planar surface, thus the lips, partitions and plates of both Lynch and Rice have shapes corresponding to the shape of some airplane wings.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch in view of Rice, as applied to claim 7 above, and further in view of Stonner et al

Art Unit: 1723

patent 3,820,954. Claims 9-12 differ from Lynch in requiring the 1st weir to have a bottom wall and such wall to be angled towards the bottom rear side of the settler compartment. Stonner teaches an oil/water settler and separator having such weirs with bottom walls that slope towards the back thereof (column 4, lines 21-32). It would have been further obvious to have added such sloping bottom wall taught by Stonner et al to the 1st weir of Lynch, in order to facilitate a greater separation of the liquid phases into distinct layers (see Stonner at column 2, lines 53-59). Regarding claims 10-12 of this group of claims, Lynch also teaches protruding lip 132 extending downwardly from coalescing compartment and 1st weir towards the settler bottom to support these structures, while Stonner et al teach the inclined plate of weir front wall of claims 11 and 12.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch in view of Rice, as applied to claim 7 above, and further in view of Casner et al patent 2,817,440.

Claim 13 differs from Lynch in requiring the sides of the 1st weir to be angled or unequally spaced from the back side of the settler compartment. Casner et al teach such angling of weir wall sides (column 3, lines 3-23, especially lines 11-13, with sides and bottom angled towards one side of settler compartment in order to facilitate flow of heavy impurities towards discharge outlets on the side of the settler compartment (Casner at column 4, lines 55-59).

Art Unit: 1723

Applicant's arguments with respect to claims 2-4,6-19, 22-25 and 27-32 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1723


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

January 10, 2007


JOSEPH DRODGE
PRIMARY EXAMINER